

# Banking Daily Quiz Blog - September 2



1. Read the instruction carefully and answer the questions based on it.

Solve the given quadratic equations and mark the correct option based on your answer—

(a)  $x > y$

(b)  $x \geq y$

(c)  $x < y$

(d)  $x \leq y$

(e)  $x = y$  or no relation can be established between  $x$  and  $y$ .

A.  $3x^2 + 28x + 64 = 0$

$2y^2 + 15y + 28 = 0$

A

B

C

D

E

**Solution**

$$3x^2 + 28x + 64 = 0$$

$$3x^2 + 12x + 16x + 64 = 0$$

$$3x(x + 4) + 16(x + 4) = 0$$

$$(3x + 16)(x + 4) = 0$$

$$x = -4, -\frac{16}{3}$$

$$2y^2 + 15y + 28 = 0$$

$$2y^2 + 8y + 7y + 28 = 0$$

$$2y(y + 4) + 7(y + 4) = 0$$

$$(2y + 7)(y + 4) = 0$$

$$y = -\frac{7}{2}, 4$$

$$y \geq x$$

B.  $x^2 + 4x - 32 = 0$

$$y^2 - 13y + 40 = 0$$

A

A

B

B

C

C

D

D

E

E

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## Solution

$$x^2 + 4x - 32 = 0$$

$$x^2 + 8x - 4x - 32 = 0$$

$$x(x + 8) - 4(x + 8) = 0$$

$$(x - 4)(x + 8) = 0$$

$$x = 4, -8$$

$$y^2 - 13y + 40 = 0$$

$$y^2 - 5y - 8y + 40 = 0$$

$$y(y - 5) - 8(y - 5) = 0$$

$$(y - 8)(y - 5) = 0$$

$$y = 8, 5$$

$$y > x$$

c.  $3x^2 - 25x + 50 = 0$

$$4y^2 - 21y + 27 = 0$$

**A** A

B B

C C

D D

E E

## Solution

$$3x^2 - 25x + 50 = 0$$

$$3x^2 - 15x - 10x + 50 = 0$$

$$3x(x - 5) - 10(x - 5) = 0$$

$$(3x - 10)(x - 5) = 0$$

$$x = \frac{10}{3}, 5$$

$$4y^2 - 21y + 27 = 0$$

$$4y^2 - 12y - 9y + 27 = 0$$

$$4y(y - 3) - 9(y - 3) = 0$$

$$(4y - 9)(y - 3) = 0$$

$$y = \frac{9}{4}, 3$$

$$x > y$$

D.  $x^2 - 10x + 24 = 0$

$$y^2 - 20y + 96 = 0$$

A

B

C

D

**E****E****Solution**

$$x^2 - 10x + 24 = 0$$

$$x^2 - 6x - 4x + 24 = 0$$

$$x(x - 6) - 4(x - 6) = 0$$

$$(x - 4)(x - 6) = 0$$

$$x = 4, 6$$

$$y^2 - 20y + 96 = 0$$

$$y^2 - 12y - 8y + 96 = 0$$

$$y(y - 12) - 8(y - 12) = 0$$

$$(y - 8)(y - 12) = 0$$

$$y = 8, 12$$

$$y > x$$

**E.**  $3x^2 - 14x + 16 = 0$

$3y^2 - 10y + 8 = 0$

**A****A****B****B****C****C****D****D**

**E** E

### Solution

$$3x^2 - 14x + 16 = 0$$

$$3x^2 - 6x - 8x + 16 = 0$$

$$3x(x-2) - 8(x-2) = 0$$

$$(3x-8)(x-2) = 0$$

$$x = \frac{8}{3}, 2$$

$$3y^2 - 10y + 8 = 0$$

$$3y^2 - 6y - 4y + 8 = 0$$

$$3y(y-2) - 4(y-2) = 0$$

$$(3y-4)(y-2) = 0$$

$$y = \frac{4}{3}, 2$$

$$x \geq y$$

F.  $2x^2 + 3x - 27 = 0$

$$3y^2 - 5y - 42 = 0$$

**A** A

**B** B

**C** C

**D** D

**E****E****Solution**

$$2x^2 + 3x - 27 = 0$$

$$2x^2 + 9x - 6x - 27 = 0$$

$$x(2x + 9) - 3(2x + 9) = 0$$

$$(2x + 9)(x - 3) = 0$$

$$x = \frac{9}{2}, 3$$

$$3y^2 - 5y - 42 = 0$$

$$3y^2 - 14y + 9y - 42 = 0$$

$$y(3y - 14) + 3(3y - 14) = 0$$

$$(y + 3)(3y - 14) = 0$$

$$y = -3, \frac{14}{3}$$

No relation can be established between  $x$  &  $y$



2. A tank connected with 8 pipes some of them are inlet pipes and some of them outlet pipes. Each of the inlet pipes can fill the tank in 4 hours individually while each of those that drain the tank can drain it in 3 hours individually. If all the pipes are kept open when the tank is full. It will take exactly 3 hours for the tank to empty. How many of these are outlet pipes?

A 3

**B 4**

C 5

D 6

E 5

### Solution

Number of inlet pipes =  $x$

Number of outlet pipes =  $8 - x$

$$\left(\frac{8-x}{3}\right) - \left(\frac{x}{4}\right) = \frac{1}{3}$$

$$\frac{(32-4x-3x)}{12} = \frac{1}{3}$$

$$32 - 7x = 4$$

$$7x = 28$$

$$x = 4$$

$$\text{Outlet pipes} = 8 - 4 = 4$$

3. A man can row at a speed of 9 kmph in still water to a certain upstream point and back to the starting point in a river which flows at 3 kmph. Find the average speed for total journey.

A 16 Kmph

B 12 Kmph

C 6 Kmph

D 10 Kmph

**E 8 Kmph**

### Solution

$$B = 9 \text{ kmph}$$

$$W = 3 \text{ kmph}$$

$$\begin{aligned} \text{Average speed} &= \frac{((9+3) \times (9-3))}{9} \\ &= 12 \times \frac{6}{9} = 8 \text{ kmph} \end{aligned}$$

4. Eight years ago the average age of all the 32 teachers of the school was 48 years. Four years ago, one teacher has retired at the age of 58 years. After one year a new teacher whose age was 48 years recruited from outside. What is the present average age of all the teachers?

A  $55\frac{23}{32}$  years

B  $53\frac{21}{32}$  years

C  $51\frac{21}{32}$  years

D  $57\frac{21}{32}$  years

E  $55\frac{21}{32}$  years

### Solution

Eight years ago the total age of 32 teachers =  $48 \times 32 = 1536$  years

Four years ago total age of teacher excluding the retire teacher

$$= 1536 + 4 \times 32 - 58 = 1606 \text{ years}$$

Three years ago total age of teacher including new teacher

$$= 1606 + 48 + 31 = 1685 \text{ years}$$

Now present age of all teachers =  $1685 + 32 \times 3 = 1781$  years

$$\text{Average age} = \frac{1781}{32} = 55\frac{21}{32} \text{ years}$$

5. Prem out of his total monthly salary pays 25% towards house and 20% towards his miscellaneous expenditure. From the remaining amount, the respective ratio of the amount he invests in a scheme and the amount left with him is 3:4. If he invests Rs. 69300 in the scheme, what is his monthly salary?

A Rs. 298000

B Rs. 284000

C Rs. 290000

D Rs. 296000

**E Rs. 294000**

### Solution

Prem's monthly salary =  $x$

$$\text{Total expenditure} = x \times \frac{25}{100} + x \times \frac{20}{100} = \frac{45x}{100}$$

$$\text{Remaining} = \frac{55x}{100}$$

$$\frac{69300}{\left(\frac{55x}{100}\right) - 69300} = \frac{3}{4}$$

$$4 \times 69300 = 3\left(\frac{55x}{100}\right) - 3 \times 69300$$

$$7 \times 69300 = 3 \times \frac{55x}{100}$$

$$x = \text{Rs. } 294000$$



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